

PATENT  
DOCKET NO. KK-140-R&D

APPLICATION FOR UNITED STATES LETTERS PATENT

TITLE: CIGARETTE PACKAGE HAVING  
A CIGARETTE SAVER

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Number EI 519 567 905

Date of Deposit March 20, 2001

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## **CIGARETTE PACKAGE HAVING A CIGARETTE SAVER**

### **Field of the Invention**

The present invention relates to a cigarette saver and to a package of smoking articles, such as cigarettes, having a cigarette saver.

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### **Background of the Invention**

Smoking articles, such as cigarettes, conventionally have been sold in packages. Typically, each package contains about twenty or about twenty-five cigarettes.

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One type of popular cigarette package is the so-called "hard pack," "crush proof box" or "hinged lid package." Such a package has a generally cuboid-type shape, is manufactured from resilient paperboard, and includes an outer wrap of transparent polypropylene film. Hinged lid cigarette packages conventionally are made from two paperboard blanks. One blank forms the body and lid of the package.

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The second blank forms an insert or inner frame which is assembled to the inside of the front and side walls of the package. The inner frame projects above the front and side walls of the package body, and provides a seal between the lid and body when the package is closed. See, for example, U.S. Pat. No. 4,852,734 to Allen et al. Other types of designs of blanks for hinged lid cigarette packages can be of the type

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described in U.S. Pat. Nos. 3,874,581 to Fox et al., 3,944,066 to Niepmann, and 5,139,140 to Burrows et al.

Cigarettes also can be packaged in a container having the form of a so-called "soft pack." See, for example, U.S. Pat. Nos. 3,695,422 to Tripodi and 4,717,017 to

Sprinke, Jr., et al. Cigarettes are removed from a soft package by tearing away a portion of the top of the package, in order that cigarettes can be easily accessed from the top of the package.

In the past, cigarette packages have been designed that can extinguish lighted cigarettes. For example, U.S. Patent No. 3,096,878 to Whitley et al. relates to a tobacco package with a built in ashtray. Other cigarette packages allow for lighted cigarettes to be extinguished and for the cigarette butts to be stored. See, for example, U.S. Patent Nos. 3,159,272 to Swift, 4,207,976 to Herman, and 5,992,621 to Grant et al. However, the cigarette packages disclosed in these patents have a more complex construction and design than conventional cigarette packages. For example, both Swift and Grant et al. involve individual compartments for each cigarette. Packages such as these would be difficult to integrate into an automated cigarette manufacturing and packaging process.

Cigarette prices have increased and the number of places that a smoker can enjoy a cigarette has decreased. Therefore, there is an increased need for saving cigarettes that have not been completely consumed for later use. It would also be desirable to have a cigarette package that allows for the extinguishing and storing of cigarettes that resembles conventional cigarette packages and that is easily integrated into a cigarette manufacturing and packaging process.

### **Summary of the Invention**

The present invention relates to a cigarette saver. As used herein, the term "cigarette saver" refers generally to a device for extinguishing a burning cigarette and

storing it so that the smoker can relight the extinguished cigarette and smoke it later. Thus, if a person must extinguish a cigarette before they have finished smoking it, the person can extinguish and store the cigarette in a cigarette saver of the present invention. When the person has an opportunity to resume smoking the cigarette, the person may remove the extinguished cigarette from the cigarette saver and relight it.

An embodiment of a cigarette saver of the present invention comprises a device having two ends, wherein the first end includes an opening to a channel. The size of the opening is greater than the diameter of the cigarettes. In one embodiment where the opening is circular, the diameter may be just slightly larger than the diameter of the cigarettes such that a minimal amount of air enters the channel when a person extinguishes a cigarette. In another embodiment, the opening is an oval (i.e., elliptical) that is larger than the diameter of the cigarettes. In this embodiment, the elliptical opening narrows to a generally cylindrical extinguishing portion of the channel. The length of the channel is preferably less than the length of the cigarettes such that the extinguished cigarette may be easily removed from the cigarette saver. The channel also terminates in the cigarette saver (i.e., does not extend through a second end of the device). The end of the channel may be tapered to assist in extinguishing the cigarette.

The cigarette saver may be constructed from various materials known in the art, such as plastic and metal. The cigarette saver may be a variety of shapes. In one embodiment, the cigarette saver may be a substantially rectangular body surrounding the cylindrical channel. In another embodiment, the device may be a tube or cylinder.

In another embodiment, a cigarette saver comprises a substantially rectangular body having two end portions and including a cylindrical channel being open at a first end portion of the substantially rectangular body and terminating in the substantially rectangular body. Another embodiment of a cigarette saver comprises a body having two end portions and including a bore open at one end portion of the body.

The present invention also relates to a cigarette package. An embodiment of a cigarette package of the present invention comprises a crush proof box (i.e., a hard pack or a hinged lid package), a plurality of cigarettes and a cigarette saver. In one embodiment, the cigarette package comprises twenty cigarettes. The cigarette saver may be any of the embodiments described above.

It is a feature and advantage of the present invention to provide a cigarette saver that enables a person to extinguish a cigarette and to store it so that the person can relight the extinguished cigarette and smoke it later.

Another feature and advantage of the present invention is to provide a cigarette saver that can be sold with a cigarette package.

A further feature of the present invention is to provide a cigarette saver that can be stored in a cigarette package.

A still further feature of the present invention is to provide a cigarette package that includes cigarettes and a cigarette saver that enables a smoker to extinguish a lighted cigarette and store it for subsequent relighting.

Another feature of advantage of the present invention is to provide a cigarette package that includes cigarettes, a cigarette saver and a crush proof box.

With the foregoing and other advantages and features of the invention that will become hereinafter apparent, the nature of the invention may be more clearly understood by reference to the following detailed description of the invention, the appended claims and to the several views illustrated in the drawings.

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### **Brief Description of the Drawings**

FIG. 1 is a perspective view of an embodiment of a cigarette saver according to the present invention;

FIG. 2 is a front elevational view of an embodiment of a cigarette saver according to the present invention;

FIG. 3 is a top elevational view of an embodiment of a cigarette saver according to the present invention;

FIG. 4 is a bottom elevational view of an embodiment of a cigarette saver according to the present invention;

FIG. 5 is a side elevational view of an embodiment of a cigarette saver according to the present invention;

FIG. 6 is a cross-sectional view of the cigarette saver shown in FIG. 3 taken along the line 6-6;

FIG. 7 is a cross-sectional view of the cigarette saver shown in FIG. 2 taken along the line 7-7;

FIG. 8 is a perspective view of an embodiment of a cigarette saver according to the present invention with an extinguished cigarette;

FIG. 9 is a front elevational view of an embodiment of a cigarette saver according to the present invention with an extinguished cigarette;

FIG. 10 is a top elevational view of an embodiment of a cigarette saver according to the present invention with an extinguished cigarette;

5        FIG. 11 is a cross-sectional view of the cigarette saver shown in FIG. 10 taken along the line 11-11;

FIG. 12 is a perspective view of an embodiment of a cigarette package according to the present invention having cigarettes and a cigarette saver;

10       FIG. 13 is a front elevational view of an embodiment of a cigarette package according to the present invention having cigarettes and a cigarette saver;

FIG. 14 is a top elevational view of an embodiment of a cigarette package according to the present invention having cigarettes and a cigarette saver;

FIG. 15 is a perspective view of an embodiment of a cigarette package of the present invention showing cigarettes and a cigarette saver inside of a crush proof box;

15       FIG. 16 is a perspective view of an embodiment of a cigarette package of the present invention showing cigarettes and a cigarette saver inside of a crush proof box;

FIG. 17 is a perspective view of another embodiment of a cigarette saver of the present invention;

20       FIG. 18 is a perspective view of an embodiment of a cigarette saver of the present invention;

FIG. 19 is a top elevational view of an embodiment of a cigarette saver of the present invention;

FIG. 20 is a cross-sectional view of the cigarette saver shown in FIG. 19 taken along the line 20-20; and

FIG. 21 is a perspective view of an embodiment of a cigarette package of the present invention showing cigarettes and a cigarette saver inside of a crush proof box.

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### Detailed Description of the Invention

The present invention relates to a cigarette saver and to a package of smoking articles, such as cigarettes, having a cigarette saver. An embodiment of a cigarette package of the present invention comprises a crush proof box, a plurality of  
10 cigarettes, and a cigarette saver. In one embodiment, a cigarette saver is a device having two end portions, wherein the first end portion includes an opening to a channel.

The opening may be any shape that will assist in receiving cigarettes into the channel of the cigarette saver. Suitable openings are elliptical and round with the  
15 width of the opening being greater than the diameter of a cigarette. The channel may comprise a guide portion and an extinguishing portion. The guide portion preferably has a greater width than the extinguishing portion. The guide portion begins at the opening and may narrow to the extinguishing portion. The extinguishing portion may  
20 be substantially cylindrical with a diameter that is only slightly larger than the diameter of a cigarette to assist in extinguishing the cigarette by reducing the amount of air that enters the channel.

The length of the channel in the cigarette saver is preferably less than the length of a cigarette. The length of the channel may be such a length that when an



extinguished cigarette is in the cigarette saver, a portion of the cigarette butt extends from the opening to allow a smoker to remove and relight the cigarette. In one embodiment, the channel does not extend through the length of the cigarette saver and the end of the channel that terminates in the cigarette saver is tapered.

5 Referring now in detail to the drawings, FIGS. 1-7 illustrate an embodiment of a cigarette saver 5 of the present invention. FIG. 1 is a perspective view of an embodiment of a cigarette saver of the present invention. FIG. 2 is a front elevational view of an embodiment of a cigarette saver of the present invention. FIG. 3 is a top elevational view and FIG. 4 is a bottom elevational view of an embodiment of a cigarette saver according to the present invention. FIG. 5 is a side elevational view of an embodiment of a cigarette saver of the present invention. FIGS. 6 and 7 are cross-sectional views of a cigarette saver of the present invention. FIG. 6 is a cross-sectional view of the cigarette saver shown in FIG. 3 taken along the line 6-6 and FIG. 7 is a cross-sectional view of the cigarette saver shown in FIG. 2 taken along the line 7-7.

The cigarette saver 5 shown in FIGS. 1-7 comprises a substantially rectangular body having two end portions 10,15. The first end portion 10 includes an opening 20 to a channel 25. As shown in FIGS. 1, 3 and 6, the opening 20 may be elliptical. In other embodiments (e.g., FIGS. 18-20), the opening may be round. The width ("W") of the opening 20 is preferably greater than the diameter of cigarettes to be extinguished and saved.

The length of the channel 25 ( $L_c$  in FIG. 6) is preferably less than the length of cigarettes to be extinguished and saved. The channel 25 preferably does not extend

through the length (Ls in FIG. 5) of the cigarette saver 5. In embodiments where the channel 25 does not extend through the length (Ls in FIG. 5) of the cigarette saver 5, the end 30 of the channel 25 terminates in the cigarette saver 5. In one embodiment, the end of the channel that terminates in the cigarette saver is tapered. A tapered end of the channel assists in extinguishing the cigarette.

In the embodiment shown in FIGS. 1-7, the channel 25 comprises a guide portion 35 and an extinguishing portion 40. The guide portion 35 helps align the cigarette and guide it into the extinguishing portion 40. As shown in FIGS. 1-7, the guide portion 35 may be an elliptical funnel. Persons of ordinary skill in the art will recognize that other shapes may be used to guide the cigarette into the extinguishing portion. The diameter (D in FIG. 6) of the extinguishing portion 40 may be only slightly greater than the diameter of the cigarette to be extinguished. With a diameter of the extinguishing portion 40 that is only slightly greater than the cigarette, the cigarette is more easily extinguished as the amount of air that can enter the channel 25 is reduced.

FIGS. 8-11 illustrate an embodiment of a cigarette saver 60 of the present invention with an extinguished cigarette 70 in the channel 65. FIGS. 8, 9 and 10 show perspective, front elevational and top elevational views, respectively. FIG. 11 is a cross-sectional view of the cigarette saver shown in FIG. 10 taken along the line 11-11. The channel comprises a guide portion 80 and an extinguishing portion 75. As shown in FIGS. 8-10, the length of the channel 65 is less than the length of cigarette 70 to be extinguished. Also, the diameter of the extinguishing portion 75 is only slightly greater than the diameter of the cigarette 70 to be extinguished.

FIGS. 12-15 illustrate an embodiment of a cigarette package of the present invention. As shown, the cigarette package 100 comprises a crush proof box 105, a plurality of cigarettes 110 and a cigarette saver 115. The cigarette saver 115 may be a cigarette saver as described above with regard to FIGS. 1-11, comprising a substantially rectangular body having two end portions 140,145. The first end portion 145 includes an opening 125 to a channel. The opening 125 may be elliptical, circular or any other shape conducive to the insertion of cigarettes. The channel may comprise a guide portion 135 and an extinguishing portion 130. The guide portion 135 helps align the cigarette and guide it into the extinguishing portion 130. As shown in FIGS. 12-15, the guide portion 135 may be an elliptical funnel. Persons of ordinary skill in the art will recognize that other shapes may be used to guide the cigarette into the extinguishing portion 130.

While the embodiment of a cigarette package shown in FIGS. 12-15 comprises a crush proof box, other embodiments may comprise a soft pack instead. Typical crush proof boxes are designed to include about twenty or about twenty-five cigarettes. A cigarette package of the present invention may comprise a crush proof box designed to include twenty-five cigarettes. Using a crush proof box of this size, the crush proof box can hold twenty cigarettes and a cigarette saver as shown in FIGS. 12-15. The cigarettes 110 shown in FIGS. 12-14 are wrapped in foil 120.

Other sizes of crush proof boxes may be used, such that the number of cigarettes in the cigarette package vary. For example, FIG. 16 shows another embodiment of a cigarette package 170 of the present invention comprising a crush proof box 175 designed to include twenty-three cigarettes, a cigarette saver 180 and

twenty cigarettes 185. The lid of the crush proof box is not illustrated to better display the arrangement of the cigarettes 185 and the cigarette saver 180 inside the crush proof box 175.

FIG. 17 shows an embodiment of a cigarette saver 180 that may be included in a cigarette package of the present invention where the cigarette saver 180 and twenty cigarettes fit in a crush proof box designed to include twenty-three cigarettes as shown in FIG. 16. The cigarette saver 180 shown in FIG. 17 comprises a substantially rectangular body having two end portions 190,195. The first end portion 190 includes an opening 200 to a channel 205.

FIGS. 18-20 illustrate another embodiment of a cigarette saver 250 of the present invention. The cigarette saver 250 shown in FIGS. 18-20 comprises a substantially rectangular body having two end portions 255,260. The first end portion 255 includes an opening 265 to a channel 270. As shown in FIGS. 18 and 19, the opening 265 is round. The width ("D" in FIG. 19) of the opening 265 is preferably greater than the diameter of cigarettes to be extinguished and saved.

The length of the channel 270 ("L" in FIG. 20) is preferably less than the length of cigarettes to be extinguished and saved. The channel 270 preferably does not extend through the length of the cigarette saver 250. In embodiments where the channel 270 does not extend through the length of the cigarette saver 250, the end 272 of the channel 270 terminates in the cigarette saver 250. In one embodiment, the end of the channel that terminates in the cigarette saver is tapered. A tapered end of the channel assists in extinguishing the cigarette.

FIG. 21 is a perspective view of another embodiment of a cigarette package of the present invention. As shown, the cigarette package 272 comprises a crush proof box 275, a plurality of cigarettes 280 and a cigarette saver 250. The cigarette saver 250 shown in FIG. 21 is the cigarette saver as described above with regard to FIGS.

18-20, comprising a substantially rectangular body having two end portions 255,260. The first end portion 255 includes a circular opening 265 to a channel 270. While the embodiment of a cigarette package shown in FIG. 21 comprises a crush proof box, other embodiments may comprise a soft pack instead. The crush proof box 275 shown in FIG. 21 is designed to hold twenty-five cigarettes. Using a crush proof box of this size, the crush proof box can hold twenty cigarettes and a cigarette saver as shown in FIGS. 21.

A cigarette saver of the present invention may be constructed from materials known to those of ordinary skill in the art. The cigarette saver should be constructed from a material that can withstand the temperatures necessary to extinguish a lighted cigarette. For example, the cigarette saver may be constructed from plastic or metal. With a substantially rectangular solid, a cigarette saver of the present invention may be formed by mechanically drilling a channel. Cigarette savers of the present invention can also be formed by injection molding.

With respect to the descriptions set forth above, optimum dimensional relationships for the parts of the invention (to include variations in size, materials, shape, form, function and manner of operation, assembly and use) are deemed readily apparent and obvious to those skilled in the art, and all equivalent relationships to

those illustrated in the drawings and described in the specification are intended to be encompassed herein.

The foregoing is considered as illustrative only of the principles of the invention. Since numerous modifications and changes will readily occur to those skilled in the art, the foregoing is not intended to limit the invention to the exact construction and operation shown and described, and all suitable modifications and equivalents falling within the scope of the appended claims are deemed within the present inventive concept.

The features of the present invention, together with the other objects of the invention, and along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure.

I claim: